United States Patent

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[54] **HAIR STYLER**
3 Claims, 10 Drawing Figs.

[52] **U.S. Cl.** **132/137,** 132/141, 132/159
[51] **Int. Cl.** **A45d 24/04**
[50] **Field of Search** 132/11, 126, 137, 141, 144, 159, 46, 50, 52

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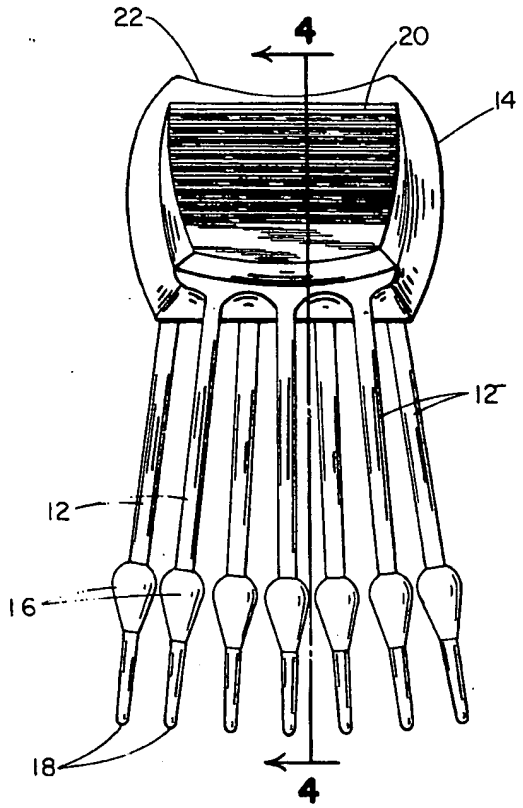
ABSTRACT: A hair-styling aid comprising a base member, a plurality of prongs each extending outwardly from an attachment location on said base member and terminating in a tip, each prong having a bulb portion intermediate the tip and the attachment location, the attachment locations being disposed in a plurality of tiers.



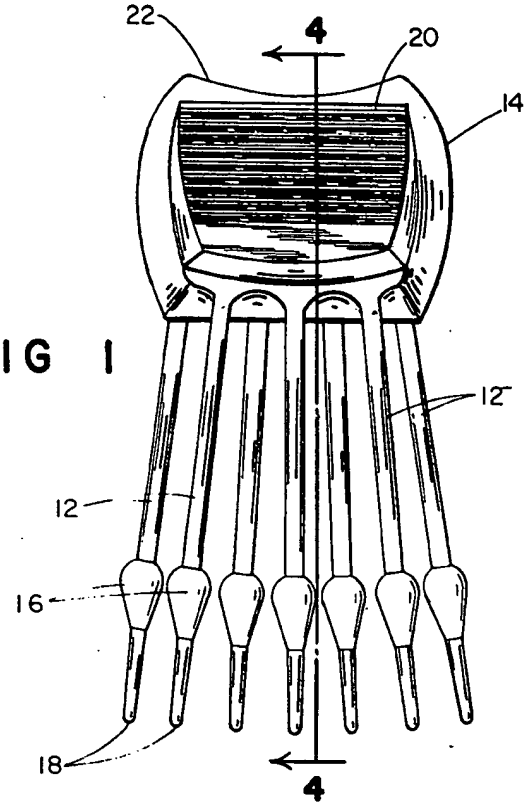


FIG 1

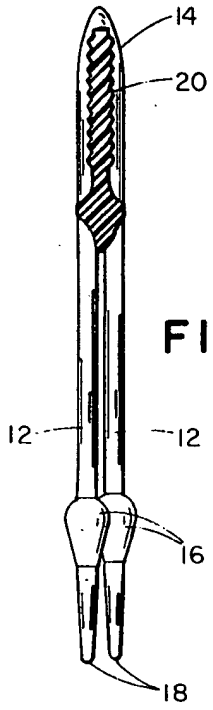


FIG 4

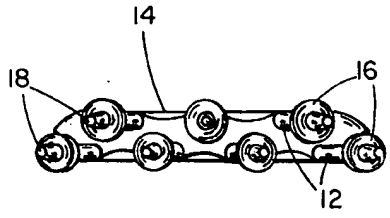


FIG 3

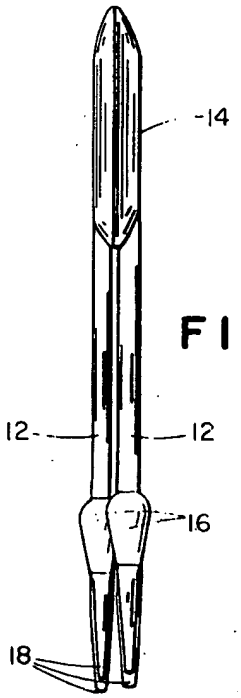


FIG 2

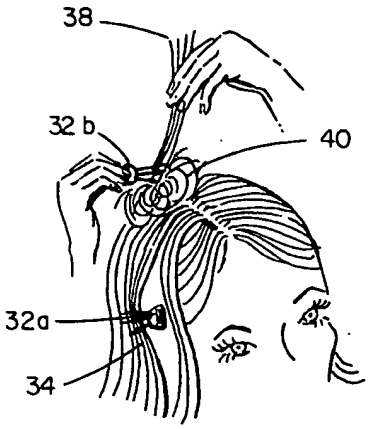


FIG 5

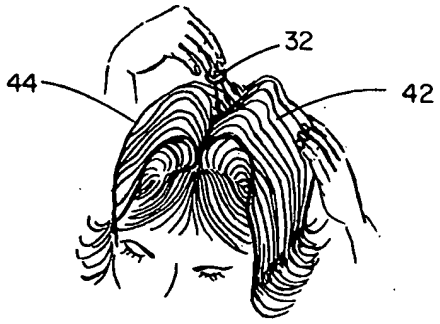


FIG 6

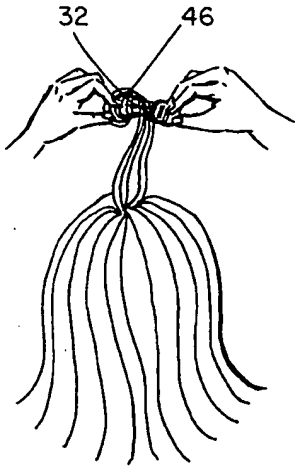


FIG 7

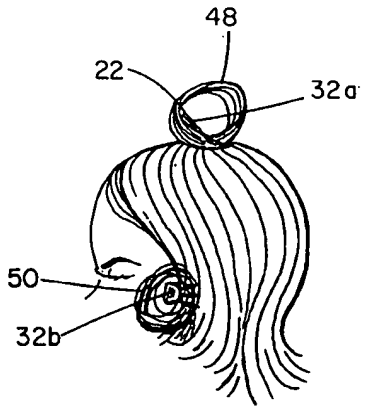


FIG 8

FIG 9

FIG 10

HAIR STYLER

This invention relates to a hair styler, and more specifically to a styler that is particularly well adapted for styling feminine hair into those contemporary coiffures containing substantial regions of nonparallel low-density strand arrays.

The advent of the aerosol hair spray has produced something of a revolution in women's coiffures. These fast-drying finely sprayed laquers permit fixing the strands of hair in a given position with comparative rigidity and structural strength. This factor has resulted in a proliferation of bouffant or "built-out" coiffures. First the "Beehive" appeared, and more recently, the "French Twist," the "Mad Cap" and a veritable menagerie of curls, tendrils, fluffs, swirls, puffs, founces, and corkscrews. Most of these coiffures rely, to a greater or lesser extent, on a foundation or underlayment of "teased," or at any rate, nonparallel, hair strands. Very often, portions of the hair mass must be temporarily held in place by mechanical means while spraying to fix the fiber array.

After spraying, the teased hair has some dimensional stability and tends to retain the shape to which it was molded or shaped. Any remaining portions of the hair can then be overlaid upon the teased foundation to produce a variety of coiffures and sprayed in turn to fix the finished result in its final form. The shaping and styling of the coiffure involves a series of operations: teasing for bulk, shaping the teased hair mass, combing, parting, rolling, or curling the outer strands of hair, lifting the overlayment from below, touching up the final contours of the coiffure, and holding portions of the coiffure in place while the hair spray is being applied.

Conventional combs are, at best, poorly adapted to perform this range of operations. The parallel teeth of such bombs are basically designed to The the hair parallel. Other combs with multiple rows of teeth have been designed for holding the hair in place, but typically these also have relatively closely adjacent teeth primarily suited for penetrating and securing generally parallel strands of hair.

It is a primary object of the present invention to provide a hair styler having the penetrating facility of a conventional comb and the holding ability of a multiple row comb, while also having the capability of lifting or otherwise manipulating tangled masses of underlying teased" hair and yet permitting convenient withdrawal from the hair mass without undue disarrangement of the coiffure. Other objects are to provide such a hair styler which is compact enough to be used as a hair-retaining clip, which is shaped to provide an appropriate mandrel for the formation of curls or rolls of hair, and which, though attractive and durable may be manufactured in quantity at minimal cost.

The invention features an array of prongs radiating outwardly from a base member in multiple tiers, each prong having a specially shaped strand-control bulb intermediate between its root and tip, the size, shape, and disposition of the base member, prongs and bulbs being such as to facilitate the aforementioned objects of the invention.

Other objects, features, and advantages will appear from the following description of a preferred embodiment of the invention taken together with the attached drawings thereof in which:

FIG. 1 is a plan view of the preferred embodiment on an enlarged scale;

FIG. 2 is a side elevation drawn to the same scale;

FIG. 3 is an end view taken from the tips of the prongs;

FIG. 4 is a sectional view taken on line 4—4 of FIG. 1;

FIG. 5 shows one styler being used to pin back a section of the hair until the wearer is ready to apply it to the coiffure while a second styler is being used to tease the hair;

FIG. 6 shows a styler used to part the hair;

FIG. 7 shows a styler used as a mandrel to form a curl;

FIG. 8 shows one styler used to hold a curl in an upright position and another used as a clip to secure a ringlet to the surface of the coiffure.

FIG. 9 shows a styler used to touch up a coiffure;

FIG. 10 shows one styler used to lift the underlayment of a coiffure while two other stylers are used to hold the coiffure in position.

Referring more particularly to the drawings, an enlarged plan view of a preferred embodiment of the styler is shown in FIG. 1. The actual overall length of the preferred embodiment is approximately 2.37 inches; the prongs are 1.5 inches root to tip. The unit is so designed that it may be readily fabricated as a single integral plastic molding, for example, of a suitable polystyrene. Seven prongs 12 radiate from a base member 14 in two staggered tiers. The base member has a recessed center portion 20 finely corrugated on both sides (as best seen in FIG. 4) to provide a convenient grip for the thumb and forefinger of the user. The two tiers of prongs are arrayed with axes in parallel planes spaced 0.050 inch apart as shown in FIG. 2. The prongs are laterally splayed from the center prong in 3° increments, the outermost prongs being at an angle of 9° to the center prong. An end view taken from the tips of the prongs is shown in FIG. 3. The lateral separation between the root centers of adjacent prongs is 0.250 inch, and the prongs in the upper tier are laterally centered between adjacent prongs of the lower tier. The root centers of the prongs are thus disposed at equally spaced points across two parallel spaced lines upon the base member with the points on one line transversely equidistant between the points upon the other line (as best seen in FIG. 3). The prong shafts are 0.063-inch in diameter.

Each prong has, located near its tip, a strand-retention bulb 16 of teardrop shape. These bulbs are solids of revolution having a maximal radial diameter to 0.140 inch and an axial length of 0.175 inch. The inner ends of the bulbs are hemispherical, and the outer ends are conical with a taper of about 20° (measured from the prong axis). From the bulb section of maximum diameter to the tip of the prong is 0.428 inch. The portion of the prong outside the bulb is tapered at 3° from the axis and terminates in a hemispherical tip 18 of 0.040-inch diameter. The centers of adjacent tips are spaced 0.253 inch apart. At the point of closest proximity, the surfaces of adjacent strand-retention bulbs are separated by only 0.050 inch.

The teardrop shape of the strand-retention bulbs has proved the best. Although other shapes (e.g. spherical bulbs) will function to a limited extent, they are less efficient, particularly for lifting the coiffure. The tapered outer end (entry portion) of the teardrop-shaped bulb permits ease of entry into a tress of hair. The hemispherical inner end (exit portion) of the teardrop is designed to resist withdrawal from the hair to a controlled and limited extent–i.e., to the point of withstanding the natural spring tension of the hair. This permits the underlying mass of hair to be lifted beyond the elastic limit of the mass thus shaping and molding the mass in a controllable fashion, and yet permits the styler to be withdrawn without undue disarrangement of the coiffure.

Were the exit portion of the bulb at a greater angle to the axis of the prong, (for instance, a perpendicular or inward sloping shoulder) or were the bulb appreciably large, although still of the same shape, then the styler would, when withdrawn, tend to pull out snarls of the underlying hair mass thus undoing the intended effect. On the other hand, were the exit portion of the bulb too finely tapered, or appreciably smaller in maximum diameter, then the styler would tend to be pushed out of the hair mass by the natural resiliency of the fibers.

This is, of course, not to suggest that there may be no variation in the size or shape of the bulbs. The outer entry portion may obviousy be elongated without ill effect to provide a shallower taper than the 20° taper chosen for the preferred embodiment. Similarly the diameter of the bulbs and prongs may be slightly reduced or enlarged, or the bulbs may be flattened (preferably along dimensions perpendicular to the lines between adjacent prong axes). Appreciable variations in size from that specified do, however, result in progressive degradation of performance. Generally, the maximum bulb diameter should be no greater than the separation between the tips of adjacent prongs, and a diameter of 0.250 inch appears to be about the practical maximum.

Also of importance to the best operation of the styler is the separation between adjacent bulbs. The 0.050 inch separation chosen for the preferred embodiment yields excellent results, and appreciably larger or smaller separations tend to result in less satisfactory performance. Preferably, the spacing between adjacent bulbs (at the point of closest surface proximity) should be less than or equal to the spacing between the root centers of adjacent prongs, and usually no more than 0.100 inch. If the spacing is reduced below that of the preferred embodiment, the styler may still be operative, but ease of insertion is somewhat impaired (unless the prongs are designed to be quite flexible–in which case the bulbs may even touch each other).

Provided that bulb size and separation are kept within the specified design limits, the remaining features and dimensions of the styler may be widely varied. More or fewer prongs than the seven of the preferred embodiment may be used, and the prongs may be arrayed in more than two tiers. (A single tier of prongs is less satisfactory both for holding and teasing.) Seven prongs are preferred; less than three or more than nine prongs would tend to render the styler less useful for some of its intended functions. The prongs need not be in parallel planes, but may splay or converge slightly (in the vertical dimension of FIG. 3). The lateral splay shown in FIG. 1 may also be varied provided that root center separation or prong length is varied commensurately to preserve the specified range of separation between adjacent bulbs. The splayed configuration of the preferred embodiment provides a relatively wide tip array while yet keeping the base member small enough to offer minimum obstruction to the arrangement of the outer layers of the coiffure. This feature is particularly useful when a plurality of stylers are in simultaneous use as fixtures to hold the coiffure in position.

In operation, the styler is highly versatile and may be used for the entire range of shaping and styling operations described above. The operations shown in FIGS. 5 through 10 are illustrative only and by no means encompass all possible applications of the styler. In FIG. 5, one styler according to the invention (designated 32*a*) is shown holding back a tress of hair 34 to be subsequently used at a late stage of the coiffure arrangement. The styler 32*a* is, by the latching effect of its strand-retaining bulbs, held firmly in position. Another styler (designated 32*b*) is shown in use to tease a tress of hair 38 which is to provide a portion of the coiffure underlayment. The user is holding the tress 38 near the ends of the strands and is teasing the hair by combing it toward its roots, producing an underlayment mass 40 composed of nonparallel strands and having a relatively high volume and low strand density. The staggered multiple tiers of prongs radiating from the base member of the styler promote the strand bending and kinking effects required for teasing the hair, and the relatively wide separation between the splayed prongs permits a number of strands to be drawn between each pair of adjacent prongs.

The use of styler 32 to part a coiffure is illustrated in FIG. 6. The prongs of the preferred embodiment styler are rigid enough to penetrate the coiffure easily, yet at the tips are not so closely spaced as to unduly compress built-up portions of the hair mass. The strand-retaining bulbs facilitate the parting operation by wedging the hair masses 42 and 44 toward either side of the part. Use of styler 32 as a mandrel to form a curl 46 is shown in FIG. 7. The strand-retention bulbs and the outward splay of the prongs both aid in preventing the curl from prematurely slipping off the prong tips. Because of the limited flexibility of the prongs which permits them to be bent laterally inward against the direction of the splay, the styler may be readily withdrawn from the finished curl. A larger loop or curl may be formed and held in position by winding a tress 48 longitudinally around a styler 32*a* and inserting the styler prongs in the hair as shown in FIG. 8. The concave inner edge 22 of base member 14 (best seen in FIG. prevents the loop or curl from slipping off the base member. Also shown in FIG. 8 is another styler 32*b* holding a ringlet 50 to the coiffure surface, clip-style.

The short section of prong protruding outward from each strand-retaining bulb provides a delicate implement for shaping or manipulating any desired set of strands or tresses to finish or "touch-up" the coiffure. Such a touchup operation is illustrated in FIG. 9. By orienting the styler at the correct angle any desired number of prong tips may be brought to bear upon the task. The wide spacing and splay of the prongs permits even a single prong to be used for delicate touchup operations, yet, where required, also permits a set of two, three, or more prongs to be used simultaneously to shape, flip, or swirl relatively large masses of the hair. In FIG. 10, one styler (designated 32*a*) is shown in use to lift the underlayment of a coiffure. Each penetration of the coiffure permits a well-controlled lift of predetermined direction, amplitude, and force. The strand-control bulbs on the styler prongs permit the underlayment to be lifted, shaped or moved as desired, yet also permit the styler to be removed easily without pulling a snarl of underlayment strands out after it or unduly disturbing the external layers of carefully arranged strands. The overall shape and contour of the coiffure can thus be efficiently governed, and once the desired effect is obtained, the coiffure can be held, by additional stylers (e.g. 32*b* and 32*c* in FIG. 10), in the proper position for a final external application of hair spray. Stylers used for such holding function either can be removed after the spray has dried, or can be left in the coiffure for decorative effect.

Other embodiments of the invention will occur to those skilled in the art and are within the following claims.

What is claimed is:

1. A hair styler comprising

a flattened base member;

a plurality of prongs each extending outwardly from an attachment location on said base member, terminating in a tip, and having a substantially straight longitudinal axis;

said prongs arranged in two laterally extending tiers of staggered prongs outwardly splayed laterally from said base member;

each of said prongs having a teardrop-shaped strand-control bulb symmetrically positioned about the longitudinal axis of said prongs and intermediate said attachment location and said tip;

said strand-control bulbs all being substantially equidistant from said base member and closer to said tip than to said attachment location with the conical portion of each bulb pointing away from the base member;

the radial diameter of said strand-control bulbs being no greater than the tip separation of said prongs;

the surface spacing of adjacent bulbs being no greater than the spacing between said attachment locations.

2. The hair styler of claim 1 wherein said prongs, at said attachment location, are disposed at equally spaced points across said two generally parallel spaced lines upon said base member;

those of said points upon one of said lines being transversely equidistant between those of said points upon the other of said lines.

3. The hair styler of claim 2 wherein the number of prongs is from three to nine inclusive.